

**ABSTRACT**

A system and method for echo cancellation in digital subscriber line (DSL) service using passive devices. The outgoing transmitted signal is attenuated and fed back into the receiver circuit in such a way as to maximize the canceling of the transmitted signal and thus allow the receiver circuit to amplify and process the received signal without interference from the outgoing transmitted signal. The feedback circuit uses only passive elements. The feedback circuit has complex impedance branches. These complex impedance branches parallel the complex impedances of the transformer and transmission line such that any change in the transformer or transmission line impedance is similarly experienced in the feedback circuit. This allows for near total cancellation of the echo signal without the need for costly active circuits.